

E7.3 109.84

CR-133763

Progress Report on ERTS Project 281

a. Title of Investigation

Sediment Pattern Correlation with Inflow and Tidal Action, Proposal No. MMC 281.

b. Principal Investigator

Warren E. Grabau, GSFC ID DE328

c. Problems

None.

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d. Work Accomplished 1 July - 31 August 1973

Prior to this time data analysis has been accomplished using computer printouts that show the distribution of suspended materials and denote ranges of material concentrations by a group of alpha-numeric characters or symbols. The computer printouts are pieced together to form portions of ERTS scenes containing the WES study area; they are quite large (the Choptank River portion is 7 ft wide and 4 ft high) and thus very difficult to handle and to interpret.

During the period of this report a technique was developed to depict the ranges of suspended material concentrations as shades of gray on photographic film. Fig. 1 shows the result of using this technique on a portion of the 10 October 1972 ERTS-1 scene that covers the York River. ERTS-1 data from computer compatible tapes were searched on a pixel-by-pixel basis for radiance values that match one of three reference spectra that correspond to a range of suspended material concentrations. When a spectrum match occurred, the pixel location was assigned a shade of gray depending upon the spectrum that was matched. If no match occurred, that pixel location was made white (maximum density of the negative from which the photograph in fig. 1 was made).

The horizontal lineations evident in all of the water areas are the result of 6th line "noise" that is apparent in much of the ERTS-1 data. Due to limitation of funds, no attempt has been made to alleviate this problem.

In developing this technique, such things as skew, pixel dimensions, etc., were taken into account so that the resulting photograph can be overlaid on a map of the same scale and have true registration.

(E73-10984) SEDIMENT PATTERN CORRELATION  
WITH INFLOW AND TIDAL ACTION Progress  
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e. Work Contemplated 1 September - 31 October 1973

Analysis of data from the two 10 October scenes will be concluded, and a draft of the final report on the project will be written.

f. Significant Results

None this reporting period.

g. Published Articles, Papers, Reports, Talks

A paper entitled "A Technique for Interpretation of Multispectral Remote Sensor Data" has been prepared by Mr. A. N. Williamson for presentation at the forthcoming American Society of Photogrammetry Symposium on Remote Sensing in Oceanography to be held in Orlando, Florida, on 2-5 October 1973.

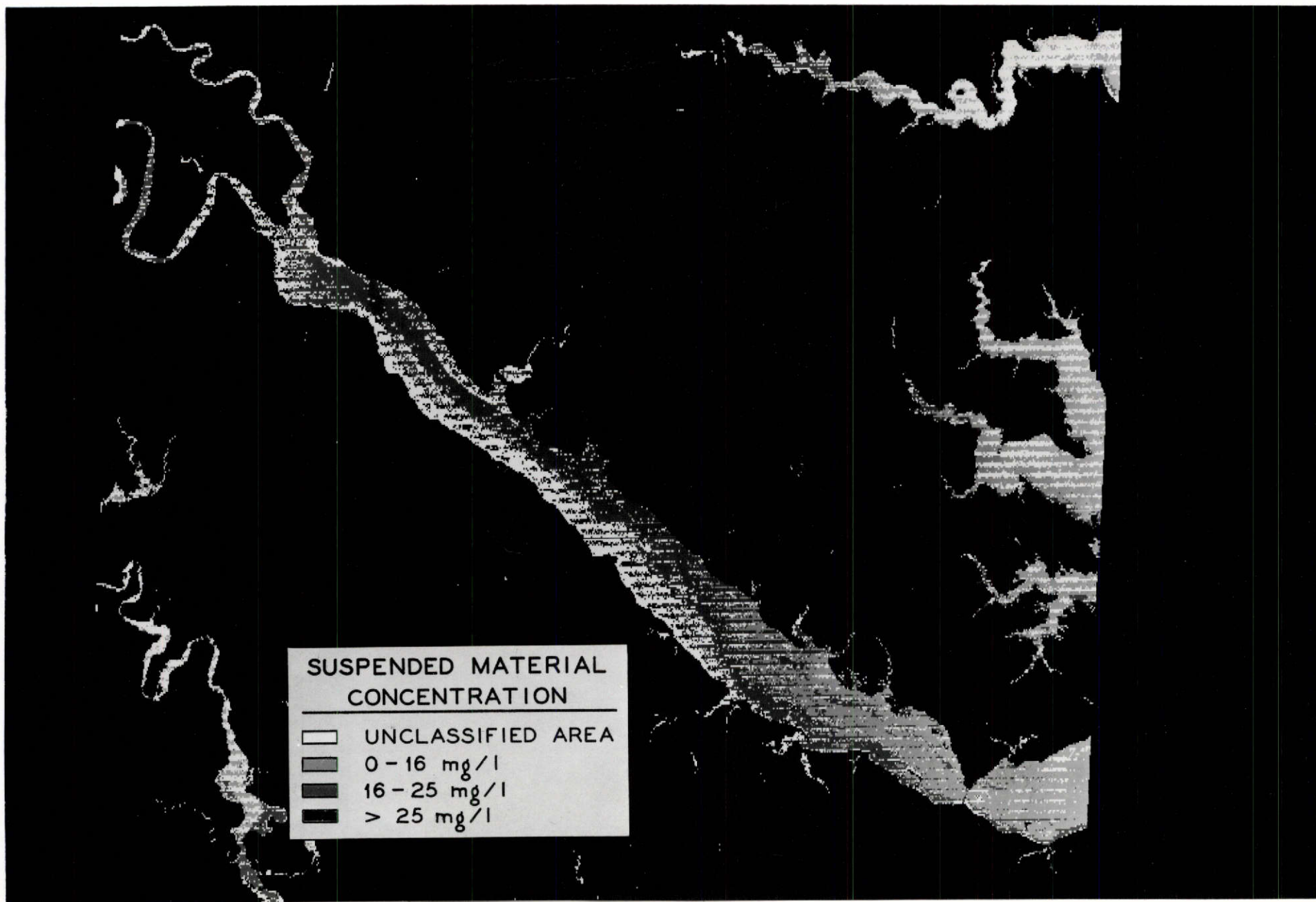


Fig. 1 Photomap derived from computer analysis of ERTS-1 data